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ABSTRACT

Since much of the recent literature concerning leadership has emphasized the study of verbal interactions among leaders and other group members (ignoring the role of nonverbal communication), a study was undertaken to investigate several aspects of nonverbal communication in leadership. Specifically, it examined whether (1) leadership messages were carried by both the verbal and the nonverbal communication channels, (2) observers of only one channel received all the leadership information available through both channels, and (3) observers of a single channel were able to express as much confidence in their leadership perceptions as were observers of both channels. Observers, 145 college students, were presented with videotapes of actual group interactions in one of three experimental conditions: picture only (nonverbal), sound only (verbal), or a combination of picture and sound. Following the viewing of the videotape, the subjects completed rating scales for each group member's task, maintenance, and overall leadership performance. The subjects also indicated their confidence in rating each group member. Results showed that both verbal and nonverbal information were important in evaluating task and maintenance leadership. When either type of information was missing, subjects' judgments of perceived leadership dropped, as did their confidence in the leadership ratings. (FL)

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NONVERBAL AND VERBAL COMMUNICATION OF LEADERSHIP

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Much of the emergent leadership literature has emphasized the study of verbal interactions among leaders and other group members; in contrast, the nonverbal channel has been relatively ignored. Videotapes of actual group interactions were used to present observers with leadership information either verbally, nonverbally, or both channels combined. Task and maintenance leadership ratings, as well as the confidence with which they were made, were affected by channel of communication; overall leadership ratings were not. Both nonverbal and verbal messages are important for ratings of leadership. Further consideration of the leadership messages communicated by different channels is warranted.

Social psychological approaches to emergent leadership have emphasized the distinction between task leadership and maintenance leadership (Bales, 1958). The task leader leads the group by an emphasis upon getting the group's work done, emphasizing problem-solving, idea generation, and the accomplishment of the group's objectives. In contrast, the maintenance leader emphasizes the preservation of a warm and friendly group atmosphere and of harmonious relationships among group members.

The usual approach to studying emergent leadership has been to examine the verbal output of such leaders (Bales, 1950; Carter, Haythorn, Shriver, & Lanzetta, 1950). Although Bales (1950) did include some nonverbal expressions of approval and disapproval in his "interaction process analysis," most studies have examined only what leaders and their fellow group members say. However, Stein & Heller (1979) found verbal participation rates to account for less than half of the variance in leadership ratings. Leadership researchers, then, must examine more closely the nonverbal channel for the leadership messages contained therein.

Nonverbal communications have been shown to convey such messages as status, attitudes toward others, approval-seeking, and persuasiveness (Rosenfeld, 1966; Efran, 1968; Mehrabian, 1968; Mehrabian & Williams, 1969). Because these messages are related to leadership, it is not surprising that emergent leaders have been identified from nonverbal communications (Stein, 1975; Gitter, 1970). However, research on the nonverbal communication of leadership is just beginning.

This study addresses several questions regarding nonverbal communication of leadership. Are task and maintenance leadership messages carried by both the nonverbal and verbal communication channels? Do observers of only one channel receive all the leadership information available through both channels? Are observers of a single channel able to express as much confidence in their leadership perceptions as observers of both channels? The methodology used to answer these questions involved the videotaping of actual groups during their interactions, and then presenting these tapes to subjects.

METHOD

Subjects

Subjects were 145 undergraduates who were required to participate in experiments in order to fulfill a course requirement.

Stimulus Groups

The stimulus groups were three, four-member, mixed-sex groups composed of members of an organizational psychology class. Each group was responsible for planning, preparing, and presenting a course-related workshop for the other members of the class.

Independent Variables

Two one-hour meetings of each stimulus group were videotaped. These videotapes were then edited to provide one half-hour videotape for each group.

There were three experimental conditions of videotape presentation: picture only (nonverbal), sound only (verbal), or with both picture and sound (combined). To ensure that subjects in the verbal condition recognized group members' voices, a video display of lights indicated the speakers' names as each spoke.

Dependent Variables

Following the viewing of the videotape, subjects completed a questionnaire in which they rated each group member along each of 5 dimensions. Two items were indicators of task leadership: "helped the group identify and solve problems related to getting the job done," and "directed the group in its efforts to get the job (preparing the workshop) done." Two items tapping maintenance leadership were also included: "helped the group form and maintain congenial and enjoyable interpersonal relationships," and "was warm and friendly toward others." The indicator of overall leadership was: "functioned as the group's leader."

A 7-point scale was used for each of the ratings. Anchors were "Very unfriendly" (1) and "Very friendly" (7) for the friendliness item and "Very infrequently" (1) to "Very frequently" (7) for the other four items. Hence, high scores on these scales indicated high perceived leadership. Subjects subsequently indicated their confidence in rating each group member along these dimensions via 7-point scales ranging from "Very unsure" (1) to "Very sure" (7).

Procedure

Subjects participated in groups of from 4 to 15. Each subject observed

one stimulus group in one stimulus condition. The experimenter read instructions describing the stimulus group's task and then distributed a diagram which gave the names of the members and their seating positions. Subjects were encouraged to write notes regarding the interactions on the seating chart as they watched the videotape. After seeing the tape, subjects completed the questionnaire.

Design

The experiment was a 3 x 3 x 12 nested design. Communication channel condition, with three levels, was a fixed factor. Stimulus group was a random factor with three levels. Nested within each group level were four stimulus group members, a fixed factor, with a total of 12 levels.

RESULTS

Channel Effect on Leadership Ratings

A multivariate analysis of variance (MANOVA) showed that leadership ratings vary across communication channel (Wilks' $\lambda = .962$, $F(10, 1078) = 2.13$, $p < .02$). Univariate analyses of variance (ANOVAs) were then performed on each of the five leadership items (see Table 1). Significant communication channel effects emerged for task and maintenance leadership items, but not for the overall leadership item.

 Insert Tables 1 & 2 about here

Results of Duncan range tests show that, for both the maintenance and task leadership items, the combined condition produced significantly higher mean ratings than either the nonverbal or verbal conditions (see Table 2). The pattern is the same for the overall rating of leadership means, but the differences are not significant. The nonverbal and verbal condition means were not significantly different from each other for any of the items.

Channel Effect on Confidence in Leadership Ratings

Does the channel through which leadership information is communicated affect the confidence with which subjects rate group members' leadership? In order to answer this question, it was necessary to examine the confidence ratings independent of the variance that they shared with their respective leadership items. This requirement was met by regressing each confidence rating on its associated leadership item and then using the residuals of these regressions as the dependent variables in the subsequent analyses.

A MANOVA using these residual confidence ratings as dependent variables showed a significant communication channel effect (Wilks' $\lambda = .846$, $F(10, 1074) = 9.35$, $p = .0001$). Univariate analyses of variance of each of the five residual confidence ratings showed subjects' confidence in rating task and maintenance leadership to be affected by the communication channel through which the information was received (see Table 3).

Insert Tables 3 & 4 about here

However, a significant difference was not found for the overall leadership rating. An examination of the means (Table. 4) shows subjects receiving the combined information to be more confident of their ratings of task and maintenance leadership than were subjects who received only nonverbal information. On three of the four items, subjects receiving only verbal information were significantly less confident than those with combined information. The nonverbal condition confidence ratings were significantly lower than those of the verbal condition for one task and one maintenance leadership items.

In sum, a channel effect existed for task and maintenance leadership, but not for overall leadership. Generally speaking, leadership was rated higher, and with more confidence, in the combined condition. Data patterns indicated that nonverbal leadership ratings were higher than the verbal, but more confidence was placed in the verbal ratings, although most of the differences between the verbal and nonverbal conditions were not significant.

DISCUSSION

These data show that both verbal and nonverbal information are important to evaluating task and maintenance leadership. When either type of information was missing, subjects' judgments of perceived leadership dropped, as did their confidence in the leadership ratings. Additional research is

needed to determine if the information communicated in the two channels is qualitatively similar. That is, are specific leadership indicators unique to one of the communication channels, or are there simply different numbers of qualitatively similar cues within the two channels.

The importance of both channels to the communication of leadership seems to be stronger here than in a previous investigation (Stein, 1975). Stein approached the question differently by assessing the accuracy with which subjects reproduced group members' own ratings of each other on leadership. Stein found that while nonverbal communications contained leadership information, subjects who reviewed only verbal information were as accurate as subjects who used both verbal and nonverbal communications, suggesting that nonverbal communications are unnecessary for judgments of task leadership. A parallel analysis showed that verbal communications were less important than nonverbal communications for perceiving liking. (Stein did not measure his subjects' confidence in their judgments). In contrast, the present results indicate that both verbal and nonverbal communications are important for judging leadership. The difference between the studies would be reconciled if partial information were sufficient to rank individuals leadership because members' ranks on a subset of behaviors related to a given type of leadership is the same as a combination of all the information. However, the subset will lead to a reduced estimate of the total amount of leadership behaviors performed.

In conclusion, these data indicate a communication channel effect on leadership ratings and on the confidence with which those ratings are made. It is interesting, though highly speculative and without statistical substantiation at this point, to note the pattern of channel means throughout the accompanying tables. Consistently, the largest means are those from the combined condition. However, the nonverbal means are consistently the second largest for the actual ratings, while verbal means are consistently the second largest for confidence ratings. This effect deserves further investigation. It appears that subjects use nonverbal information well in their ratings of stimulus persons, but are not confident of their ability to use such information. Such a separation of actual task behavior and confidence associated with that behavior suggests that people use different informational bases to rate behavior and to express their confidence in their ability to rate that behavior.

Finally, this study has shown that verbal participation is not the only manner by which leaders can express their willingness, desire, and abilities to lead. The messages that group members communicated nonverbally were useful to subjects in rating their leadership abilities. A more complete understanding of leadership will need to more fully understand the use of the nonverbal channel in leadership communication.

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TABLE 1

Results of ANOVAs Testing for Communication Channel Effect on
Leadership Item Ratings

Item	df	Sum of Squares	F	p
-----	--	-----	-	-
-----	--	-----	-	-
Problem-Solving	2	12.04	3.54	.0297
Error	543	923.60		
-----	-----	-----	-----	-----
Group Direction	2	13.73	4.61	.0103
Error	543	808.76		
-----	-----	-----	-----	-----
Congenial Relationships	2	16.34	3.52	.0304
Error	543	1261.98		
-----	-----	-----	-----	-----
Warmth & Friendliness	2	28.02	7.73	.0005
Error	543	983.52		
-----	-----	-----	-----	-----
Overall Leadership	2	3.13	0.79	.4538
Error	543	1072.56		
-----	-----	-----	-----	-----

TABLE 2
Means of Leadership Item Ratings

Leadership Item	Combined	CONDITION	
		Nonverbal	Verbal
-----	-----	-----	-----
Problem-Solving	5.22a	5.03ab	4.86b
Group Direction	5.10a	4.87ab	4.75b
Congenial Relationships	4.97a	4.61b	4.57b
Warmth & Friendliness	5.52a	5.18b	4.99b
Overall Leadership	4.76a	4.65a	4.60a

Note: Row means with the same letter are not significantly different at $\alpha=.05$.

TABLE 3

Results of ANOVAs Testing for Communication Channel Effect on
Residuals of Confidence in Leadership Item Ratings

Confidence in Rating	df	Sum of Squares	F	p
-----	--	-----	-	-
-----	--	-----	-	-
Problem-Solving	2	121.06	31.00	.0001
Error	541	1056.35		
-----	-----	-----	-----	-----
Group Direction	2	39.87	11.98	.0001
Error	541	900.40		
-----	-----	-----	-----	-----
Congenial Relationships	2	59.88	11.64	.0001
Error	541	1391.91		
-----	-----	-----	-----	-----
Warmth & Friendliness	2	83.76	25.88	.0001
Error	541	875.43		
-----	-----	-----	-----	-----
Overall Leadership	2	6.31	2.26	.1049
Error	541	753.48		
-----	-----	-----	-----	-----

TABLE 4

Residual Confidence Means Associated with Leadership Items

Confidence in Rating ----- -----	Combined ----- -----	CONDITION	
		Nonverbal ----- -----	Verbal ----- -----
Problem-Solving	.519a	-.611b	.014c
Group Direction	.323a	-.241b	-.131b
Congenial Relationships	.255a	-.471b	.173a
Warmth & Friendliness	.451a	-.462b	-.156c
Overall Leadership	.089a	-.145a	.043a

Note: Row means with the same letter are not significantly different at $\alpha=.05$.